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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 22

Application Number: 08/766,895
Filing Date: 12/13/1996
Appellant(s): Dunning et al

Kenneth M. Seddon
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed January 14, 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejections of claims 1-27 stand or fall together because appellant's brief includes a statement that claims 1-27 stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,442,474	Huang et al	8-1995

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang et al (of record).

Regarding claim 1, Huang teaches the step of receiving at a switch (500) a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (header bits) chosen so that the bit pattern (header bits or routing bits) directly provides information regarding routing the packet through the network in its encoded form (see the col. 3, lines 47-53) and copying said bit pattern at least for decoding (see the copying of header bits by detector 510 for decoding purposes). Huang clearly teaches that the header bit pattern is made unique by using a special hear bit coding so that it can be readily detected (directly provides information). The appears at the beginning of the packet frame, in front of the routing bits and that the presence of the header

bits, in essence, indicates that the routing bits will follow. Thus, the header bits directly provide the information regarding where/when the routing bits is supposed to appear/arrive or, in other words, the location of the routing bits. It is further noted that the routing bits are used to route the packet. Hence, the header bits do indeed directly provide information regarding routing the packet. It is further noted that the claimed "bit pattern chosen so that the bit pattern directly provides information regarding routing the packet" can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply provides four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

Regarding claim 2, the received binary digital signal is decoded by node 500.

Regarding claim 3, figure 5 shows that the node receives the binary signal serially, and the deserialization is performed by DEMUX's 500, 551 and 552.

Regarding claim 4, the received encoded binary digital signals is deserialized and translated into for binary digital signals as shown in four output paths in figure 5.

Regarding claim 5, the deserialized and translated binary digital signals are routed to four different output paths as shown in figure 5.

Regarding claims 6 and 7, the output paths of node 500 are connected to other node (switches) in the network to route the output signals to their intended destinations.

Regarding claim 8, the encoded binary digital signals used to route the packet through the network comprises an encoded destination address (routing bits).

Regarding claim 9, the encoded binary digital signals used to route the packet through the network comprise encoded binary digital signal specifying a route through the network if decoded (see the use of the routing bits of the encoded signals for specifying a route).

Regarding claim 10, Huang teaches a switch (500) adapted to receive a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (header bits) so that the bit pattern (header bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) and to copy said bit pattern at least for decoding (see the copying of header bits by detector 510 for decoding purposes). Huang clearly teaches that the header bit pattern is made unique by using a special hear bit coding so that it can be readily detected (directly provides information). Since the header bits appears at the beginning of the packet, in front of the routing bits, the detection of the header bits means that the routing bits will follow. In other words, the header bits provide the information regarding when the routing bits arrive. It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed "bit pattern chosen so that the bit pattern directly provides information regarding routing the packet" can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing

bits simply provides four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

Regarding claim 11, the switch (500) serially receives the packet (packet frame, figure 2) and serially copies the encoded binary digital signals to route the packet through the network (see the copying of header bits and routing bits of the received signal for determining how to route the packet in figure 5).

Regarding claim 12, the switch (500) further adapted to decode and the deserialize the copied encoded binary digital signals (see the decoding and deserializing of the received encoded signal by blocks 510, 520 550, 551 and 552 in figure 5).

Regarding claim 13, the received encoded binary digital signals is translated into four binary digital signals as shown in four output paths in figure 5.

Regarding claim 14, the output paths of node 500 are connected to other nodes in the network to route the output signals to their intended destinations.

Regarding claim 15, the encoded binary digital signals used to route the packet through the network comprises an encoded destination address (routing bits).

Regarding claim 16, the encoded binary digital signals used to route the packet through the network comprise encoded binary digital signal specifying a route through the network if decoded (see the use of the routing bits of the encoded signals for specifying a route).

Regarding claim 17, Huang teaches step of receiving at a switch (500) a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (header bits)

so that the bit pattern (header bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding. Huang clearly teaches that the header bit pattern is made unique by using a special hear bit coding so that it can be readily detected (directly provides information). Since the header bits appears at the beginning of the packet, in front of the routing bits, the detection of the header bits means that the routing bits will follow. In other words, the header bits provide the information regarding when the routing bits arrive. It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed "bit pattern chosen so that the bit pattern directly provides information regarding routing the packet" can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply provides four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

Regarding claim 18, the encoded binary digital signals used to route the packet through the network without decoding comprises a portion of the header (H1, H2; figure 2) of the packet.

Regarding claim 19, the binary digital signals are routed to four different output paths as shown in figure 5.

Regarding claims 20 and 21, the output paths of node 500 are connected to other nodes (switches) in the network to route the output signals to their intended destinations.

Regarding claim 22, Huang teaches a switch (500) adapted to receive a packet (packet frame, figure 2) of binary digital signals as encoded binary digital signals including a bit pattern (header bits) so that the bit pattern (header bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding. Huang clearly teaches that the header bit pattern is made unique by using a special hear bit coding so that it can be readily detected (directly provides information). Since the header bits appears at the beginning of the packet, in front of the routing bits, the detection of the header bits means that the routing bits will follow. In other words, the header bits provide the information regarding when the routing bits arrive. It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed "bit pattern chosen so that the bit pattern directly provides information regarding routing the packet" can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply provides four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

Regarding claim 23, the encoded binary digital signals used to route the packet through the network without decoding comprises a portion of the header (H1, H2; figure 2) of the packet.

Regarding claim 24, the binary digital signals are routed to four different output paths as shown in figure 5.

Regarding claim 25, Huang teaches a routing unit (100) adapted to produce to be included in a packet (packet frame, figure 2) binary digital signals as encoded binary digital signals including a bit pattern (header bits) chosen so that when the bit pattern (header bits) is encoded it directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding. Huang clearly teaches that the header bit pattern is made unique by using a special hear bit coding so that it can be readily detected (directly provides information). Since the header bits appears at the beginning of the packet, in front of the routing bits, the detection of the header bits means that the routing bits will follow. In other words, the header bits provide the information regarding when the routing bits arrive. It is further noted that the routing bits are used to specify how the packet is to be routed through the network. It is further noted that the claimed "bit pattern chosen so that the bit pattern directly provides information regarding routing the packet" can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply provides four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

Regarding claim 26, routing unit (100) is a network interface component since it is used to interface with the network.

Regarding claim 27, routing unit (100) is coupled to a switch (130, 500) adapted to route a packet (packet frame, figure 2) of binary digital signals through the network in accordance with the

encoded binary digital signals including a bit pattern (header bits) so that the bit pattern (header bits) directly provides information regarding routing the packet through the network in its encoded form (see col. 3, lines 47-53) without decoding (see figures 1 and 5).

(11) Response to Argument

Applicant argues that Huang does not teach a header that directly provides information regarding routing since Huang's header bits are only used to indicate the beginning of the frame and do not provide information regarding routing the packet. Examiner notes that the header bits appears at the beginning of the packet frame, in front of the routing bits and that the presence of the header bits, in essence, indicates that the routing bits will follow. Thus, the header bits directly provide the information regarding where/when the routing bits is supposed to appear/arrive or, in other words, the location of the routing bits (information regarding routing the packet). It is further noted that the routing bits are used to route the packet. Hence, the header bits do indeed directly provide information regarding routing the packet. It is further noted that the claimed "bit pattern chosen so that the bit pattern directly provides information regarding routing the packet" can also read on Huang's routing bits for the following reason: Huang's routing bits also directly provide routing information in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20). The combination of two binary routing bits simply provides four possible paths for each packet, e.g. 00 takes first path, 01 takes second path, etc. Decoding is not needed. The receiver does not need a decoder to use this routing bits.

In response to Applicant's argument that header bits do not represent encoded information that dictates the destination of the data, it is noted that such limitation which Applicant relies on (encoded information that dictates the destination of the data) are not stated in the claims. Therefore, it is irrelevant as to whether or not the prior art includes those features. As far as the claimed limitation of "information regarding routing the packet" is concerned, Huang's header bits or routing bits clearly and directly provide information regarding routing the packet as explained above.

In response to Applicant's argument that Examiner ignores language (i.e. the limitation "directly") recited in the claims, it is noted that the Examiner clearly show how the header bits or routing bits directly provides the information regarding routing the packet. In the case of the header bits, Huang's header bits directly provides the information regarding where/when the routing bits is supposed to appear/arrive or, in other words, the location of the routing bits. It is further noted that the routing bits are used to route the packet. Hence, the header bits do indeed directly provide information regarding routing the packet. Alternatively, in the case of the routing bits, Huang's routing bits clearly and directly provide information regarding routing the packet in its encoded form (see col. 6, line 14-31 and col. 6, line 59 to col. 7, line 20).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

HUY D. VU
PRIMARY EXAMINER

Huy D. Vu
March 25, 2002

ALPUS H. HSU
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